

高効率赤外線放射セラミックヒーター/ パンプ表面

バルカン・インフラレッド ヒーター

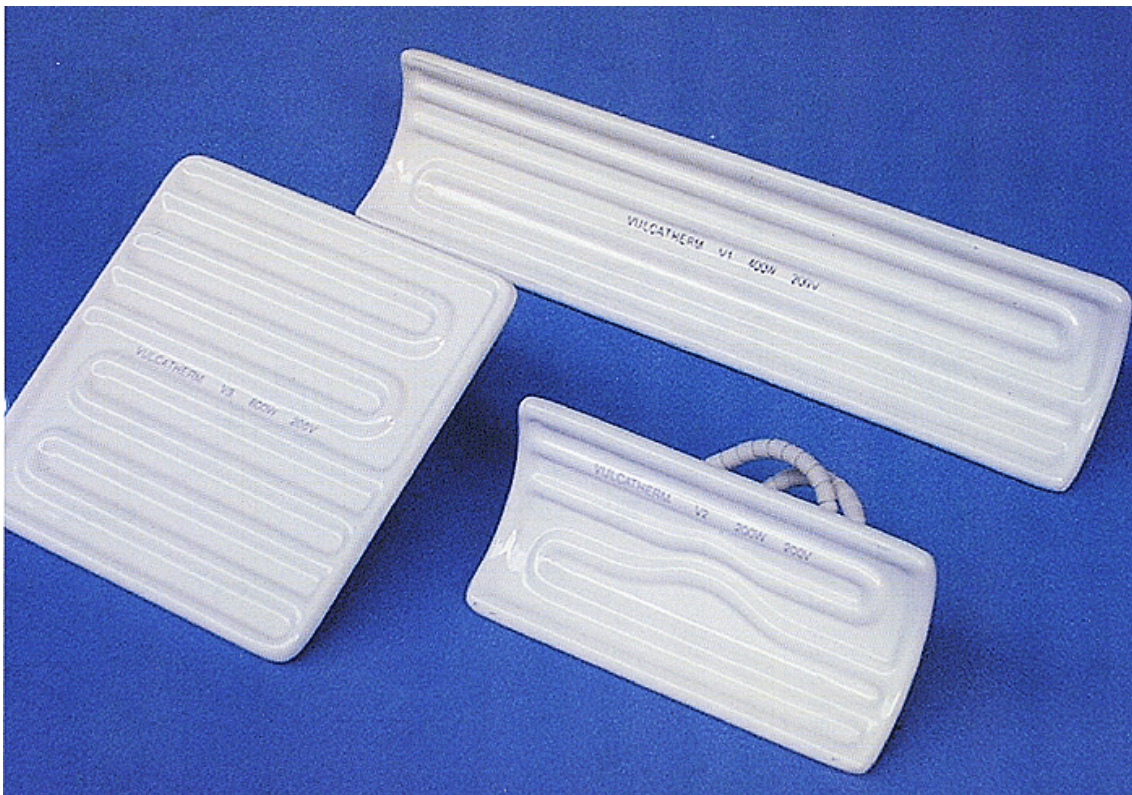
(PAT. UK No.1581127)

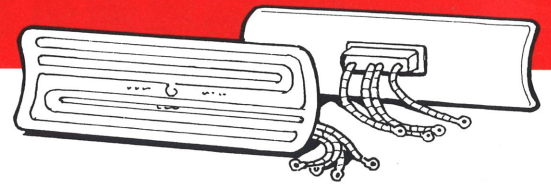
V-1 TYPE

V-2 TYPE

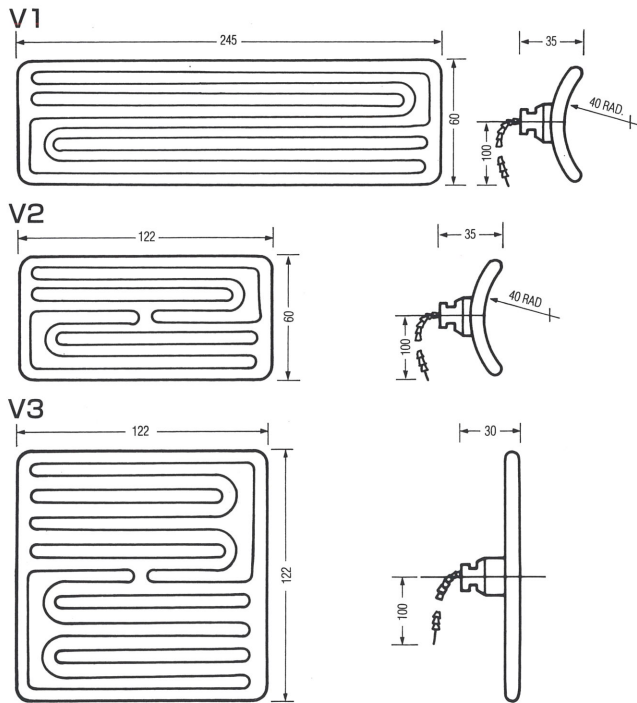
V-3 TYPE

- ヒーターの寿命は出力80%で10,000時間以上使用出来ます。
- 加熱、乾燥装置等、器具がコンパクトにでき省エネルギーに貢献します。
- 高効率赤外線放射のため、均一な加熱、乾燥が得られます。
- 熱衝撃に強く、急加熱、冷却ができます。

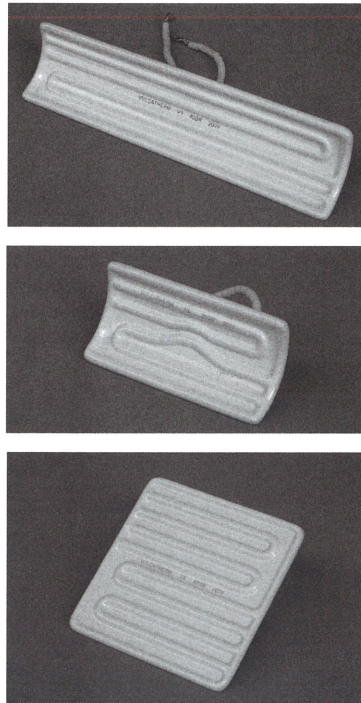




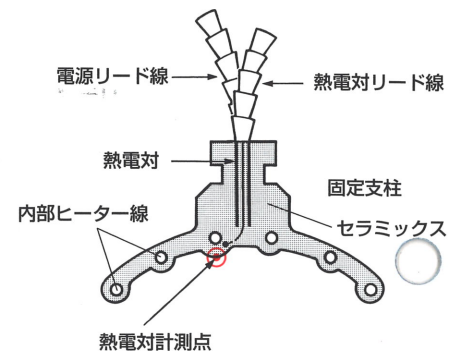
■外形寸法図及び各部の名称



寸法公差: $\pm 2\%$ or $\pm 0.5\text{mm MIN}$
 $\pm 2.0\text{mm MAX}$



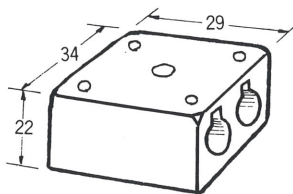
専用埋め込み熱電対 (Kタイプ) で
常にヒーター温度を測定!



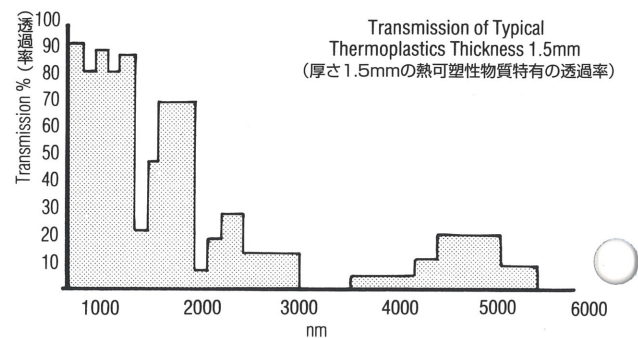
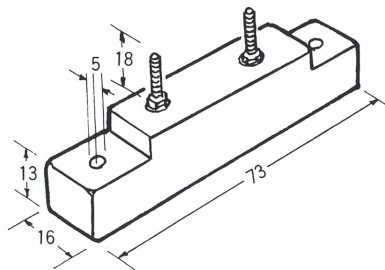
■専用オプションパーツ

(上記ヒーターを御購入の場合は必ずご使用下さい。)

●セラミックコネクター



●セラミックターミナル



■仕様

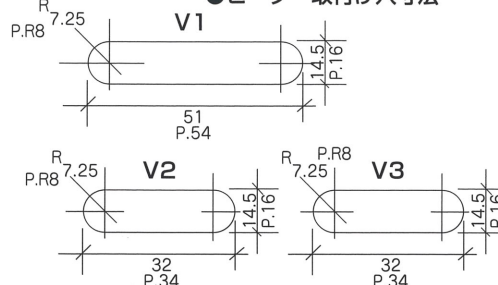
●定格電圧は標準200V使用です。

V1	V2	V3
150W	125W	150W
200W	150W	200W
250W	※ 200W	250W
300W	250W	300W
※ 400W	※ 300W	400W
500W	325W	500W
※ 600W	※ 400W	650W

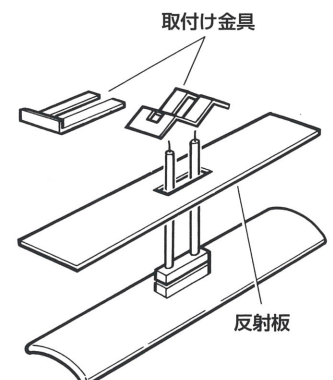
※印は標準在庫品です。他は受注品です。

■ヒーター取付け方法

●ヒーター取付け穴寸法



※P寸法はパネルカット寸法です。
 弊社、バルカン・インフラレッドヒーターは、取付け穴寸法を
 他社と規格統一しておりますので、安心してご採用ください。



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■特約店



VULCAN

LARGE SURFACE AREA HEATERS SPECIFICATIONS **PRODUCT REFERENCE : CASSETTE AND MOUNT SYSTEMS**

Cassette Construction



Cassette systems are designed to accept all standard mounting systems types MCA, MCB and MCC.

The system has a modular approach with standard components being utilised to produce heating fields with length increments of 125 or 250 mm and width increments linked to mounting system type.

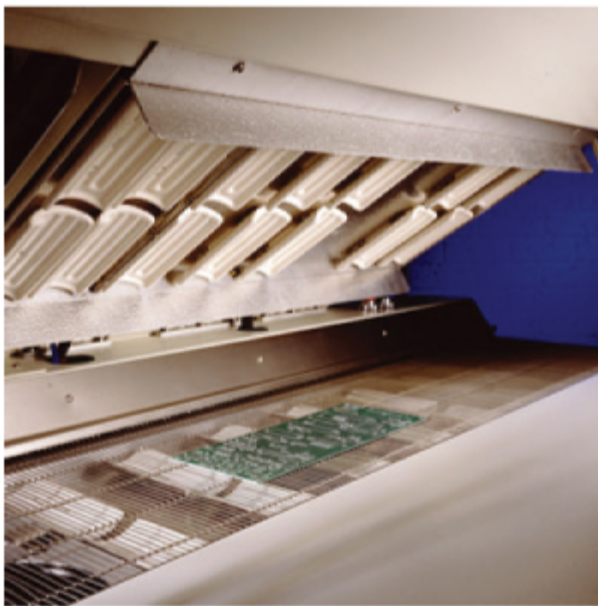


VULCAN

INFRA-RED EMITTERS APPLICATIONS ELECTRONICS INDUSTRY

Solder Reflow

Unifab Electronics has incorporated ceramic infra-red emitters from Vulcan Refractories Ltd into the design of a range of ovens for the reflow soldering of surface mounted printed circuit boards.



Unifab uses Vulcatherm V1 and V2 long wave emitters in its ovens, which have been developed to meet the individual requirements of its customers and range from a conveyor type catering for boards up to 230mm wide to the Quantum 400 model used for boards up to 508mm wide.

As well as solder reflow, the ovens can be used for adhesive curing and other heating processes. The flexibility makes them particularly suited to the sub contract market.

Unifab production engineer Chris Taylor says: *"We aim to produce ovens that are exceptionally reliable and consistent. Vulcatherm emitters enable us to meet these criteria."*



INFRA-RED EMITTERS APPLICATIONS FOOD INDUSTRY

Temperature Maintenance

Vulcatherm ceramic infra-red emitters are ideal for food temperature maintenance.

Salamander Fabrications Ltd of Huddersfield has been using infra-red emitters in its fish and chip ranges for 20 years. The ceramic long wave V1 infra-red emitters provide a cost effective, controllable and reliable heat source for the 200 warming cabinets Salamander sells each year.



The emitters are rated at 500 watts 240 volts, and are thermostatically controlled. They are hard-wearing, with a long life expectancy of more than 10,000 working hours.

The glazed surface of Vulcatherm ceramic emitters means they are easy to wipe clean, making them particularly suitable for food applications.

They are also safer than traditional heating elements. Salamander Fabrications Ltd managing director Brian Haskall said: *"People use metal utensils to serve fish and chips from these cabinets, and can easily damage traditional [quartz] heating elements. Being ceramic, with Vulcatherm emitters there is no risk of getting broken glass in the food."*



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INFRA-RED EMITTERS SPECIFICATIONS CERAMIC INFRA-RED EMITTERS



Operation

The Vulcatherm range of ceramic infra-red emitters use a resistive element through which current passes causing the element and in consequence the whole body to heat.

Life

In normal operating conditions this protection gives a normal operating life in excess of 10,000 hours at 80% of maximum rated power.

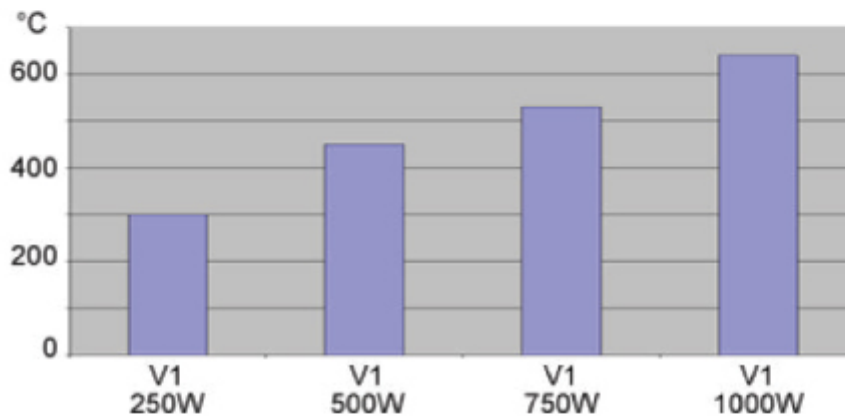
Uniformity

Since the element is in integral contact with the refractory matrix the surface temperature of the emitter attains a high degree of uniformity, leading to an even emission over the surface area.



VULCAN

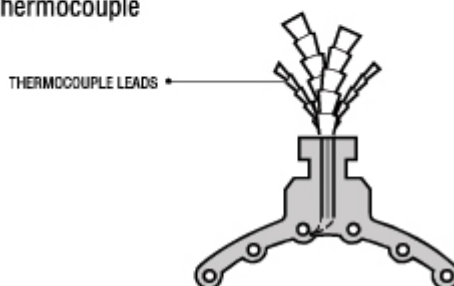
INFRA-RED EMITTERS SPECIFICATIONS CERAMIC INFRA-RED EMITTERS



Temperature

The operating temperatures of the ceramic types are illustrated characterising the units as a long wave emitter type.

Section through V1 Ceramic Infrared Emitter showing position of Thermocouple



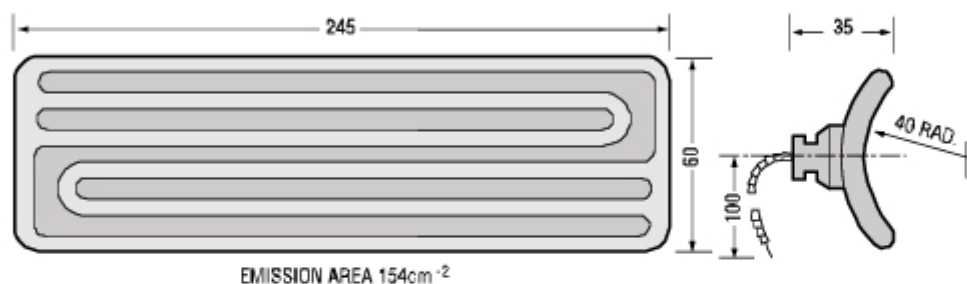
Construction

The resistive element is encased in a refractory matrix which has the appropriate electrical and thermal properties. The outer surface is then glazed to give protection from atmospheric and corrosive attack.



INFRA-RED EMITTERS SPECIFICATIONS

PRODUCT REFERENCE : V1



Available Wattage

150W	
200W	
250W	Rated power tolerance at design voltage $\pm 5.0\%$ or
300W	10 watts whichever is greater
400W	
500W	*Rated power 1000W or greater power tolerance at
600W	design voltage $\pm 7.5\%$
650W	
750W	
*1000W	

Operating Voltage Range

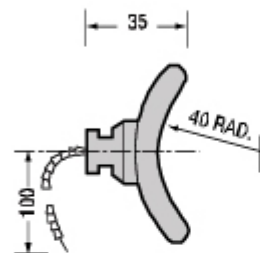
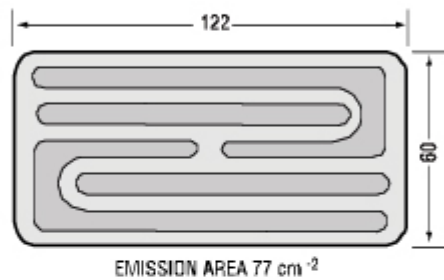
Rated Voltage Range	Design Voltage
110/120 Volt	115 Volt
200 Volt	200 Volt
220/230 Volt	230 Volt
230/250 Volt	230 Volt
380 Volt	380 Volt
400 Volt	

Rated voltage range up to 480 volts available,
details availability against specific enquiry



VULCAN

INFRA-RED EMITTERS SPECIFICATIONS PRODUCT REFERENCE : V2



Available Wattage

125W
150W
200W
250W
300W
325W
400W
500W

Rated power tolerance at design voltage $\pm 5\%$ or
10 watts whichever is greater

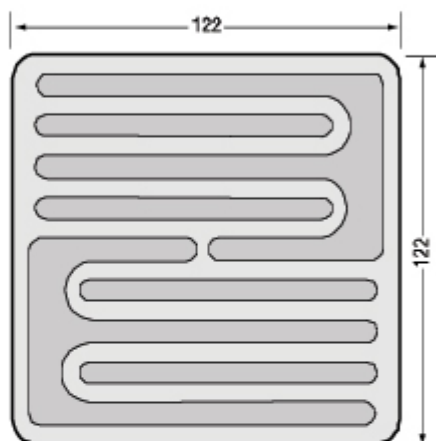
Operating Voltage Range

Rated Voltage Range	Design Voltage
110/120 Volt	115 Volt
200 Volt	200 Volt
220/230 Volt	230 Volt
230/250 Volt	230 Volt
380 Volt	380 Volt
400 Volt	400 Volt

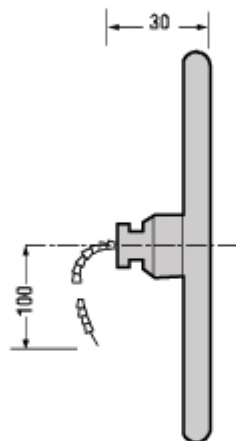
Rated voltage range up to 480 volts available,
details availability against specific enquiry



INFRA-RED EMITTERS SPECIFICATIONS
PRODUCT REFERENCE : V3



EMISSION AREA 149cm^{-2}



Available Wattage

150W
 200W
 250W
 300W
 400W
 500W
 650W
 750W

Rated power tolerance at design voltage $\pm 5.0\%$ or
 10 watts whichever is greater

Operating Voltage Range

Rated Voltage Range	Design Voltage
110/120 Volt	115 Volt
200 Volt	200 Volt
220/230 Volt	230 Volt
230/250 Volt	230 Volt
380 Volt	380 Volt
400 Volt	400 Volt

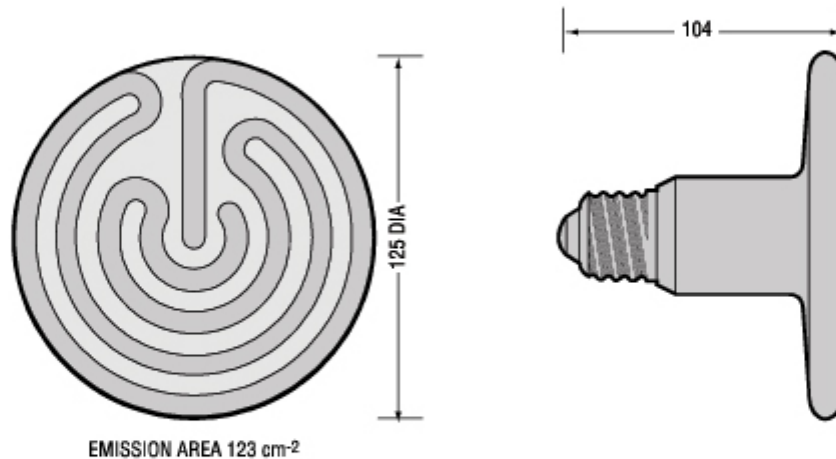
110/120 Volt	115 Volt
200 Volt	200 Volt
220/230 Volt	230 Volt
230/250 Volt	230 Volt
380 Volt	380 Volt
400 Volt	400 Volt

Rated voltage range up to 480 volts available,
 details availability against specific enquiry



VULCAN

INFRA-RED EMITTERS SPECIFICATIONS PRODUCT REFERENCE : V6



Available Wattage

150W
250W
300W
500W

Rated power tolerance at design voltage $\pm 5.00\%$ 10 watts whichever is greater

Operating Voltage Range

Rated Voltage Range	Design Voltage
110/120 Volt	115 Volt
200 Volt	200 Volt
220/230 Volt	230 Volt
230/250 Volt	230 Volt

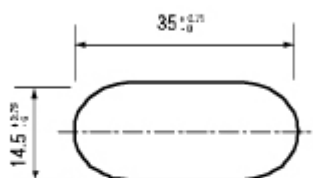


INFRA-RED EMITTERS SPECIFICATIONS
MOUNTING CUT OUTS FOR CERAMIC EMITTER FIXINGS

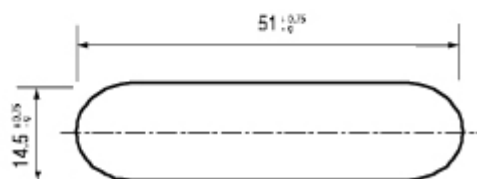
STANDARD FIXING CUT OUT



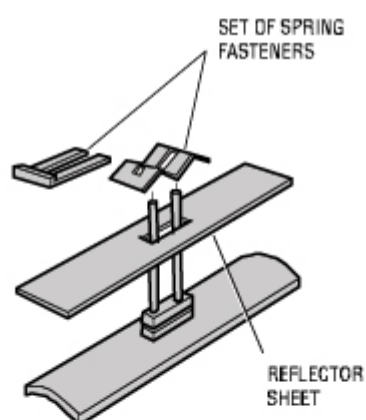
SMALL FIXING CUT OUT



LARGE FIXING CUT OUT

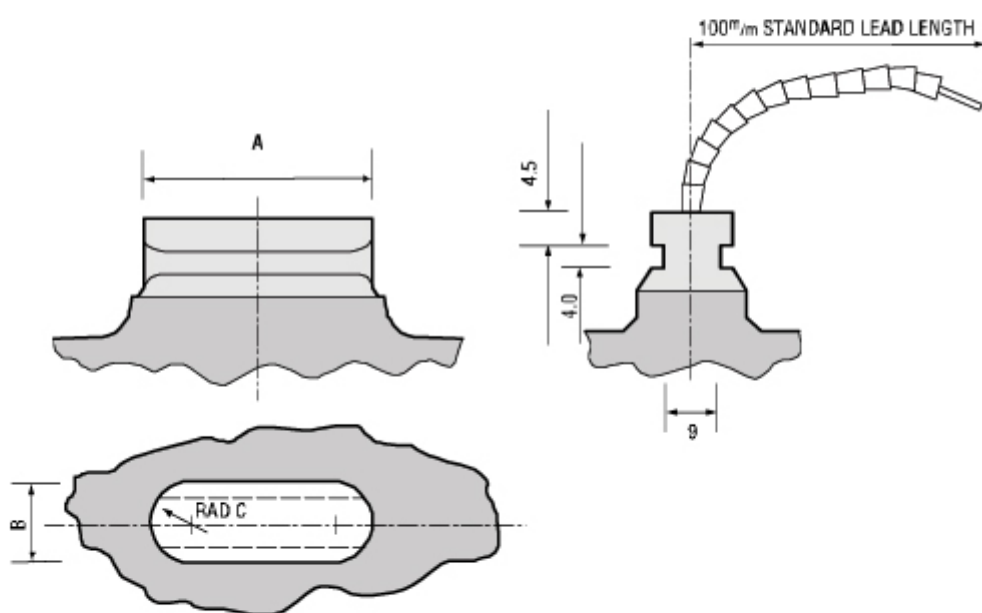


FIXING ARRANGEMENTS





INFRA-RED EMITTERS SPECIFICATIONS CERAMIC EMITTER FIXINGS



Fixing Type	A dlm	B dlm	C dlm
Standard	39mm	14mm	7mm
Small	33mm	14mm	7mm
Large	49mm	14mm	7mm



INFRA-RED EMITTERS APPLICATIONS TEXTILES & PAPER INDUSTRY

Curing Inks On Textiles

Vulcatherm Medium Wave Quartz Infra-Red Emitters provide quick drying benefits to the screen printing industry in drying units as used by Zadu Screen Print. Medium wave Infra-Red units have been used since the energy can penetrate to a considerable depth into an ink film, without excessive amounts of energy passing through overheating the substrate. The drying cycle for individual colours is six seconds.



Vulcatherm medium wave emitters provide heating which when linked with a suitable control system provides fast and responsive control but is not prone to the colour selectivity of shorter wave length heaters, this factor allows for consistent drying times and improved production efficiency.

Inks that are particularly suited to infra-red drying are the formulations which cure by thermally induced polymerisation.

Application Information

Emitter Type :	Q10 400W
Unit Rating :	4.8Kw
Power Density (total)	24Kw m ⁻²